

Date: Thu, 27 Oct 94 10:03:48 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: List
Subject: Info-Hams Digest V94 #1163
To: Info-Hams

Info-Hams Digest Thu, 27 Oct 94 Volume 94 : Issue 1163

Today's Topics:

 ARLB087 Texas flood update
 Call Sign ID (2 msgs)
 Century Club net questions
 Drake R8 For Sale
 EXAM Software
 exploring the internet
 HOW TO LEARN CW???
 LOGIC (Logbook Program)????
 Motorola Micor
 Popular 75 meter "Piss and Moan" Net to return?
 Subject: W1AW steps on others?

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Wed, 26 Oct 1994 18:18:53 EDT
From: w1aw@arrl.org
Subject: ARLB087 Texas flood update

SB QST @ ARL \$ARLB087
ARLB087 Texas flood update

ZCZC AG52
QST de W1AW
ARRL Bulletin 87 ARLB087
From ARRL Headquarters
Newington CT October 26, 1994

To all radio amateurs

SB QST ARL ARLB087
ARLB087 Texas flood update

As Texans recover from last week's flooding, the Amateur Radio response to this disaster continues. 7180 kHz has been a central frequency during the day for handling Health and Welfare messages into and out of the stricken areas of Southern and Northern Texas. Also, the coordination of disaster relief supplies is also taking place on 7180 kHz. In the evening, on-air activity shifts to 3873 kHz.

The 7290 Traffic Net on 7290 kHz, the Texas CW Traffic Net on 3643 kHz, and the Texas Traffic Net on 3873 kHz are providing support along with the National Traffic System. When checking into these nets, please follow the Net Control Station's direction. A clear frequency would be appreciated.

Thanks to North Texas Section Traffic Manager Bernard Aderholt, KJ5GE, and Ray Taylor, N5NAV, for this information.

NNNN

/EX

Date: Wed, 26 Oct 1994 12:18:46 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Call Sign ID

In article <38hqas\$6rt@detroit.freenet.org> ad779@detroit.freenet.org (John Hughes) writes:

>
>Is it appropriate or not to state a call with a double letter (i.e., xy8ppq) as xy8 double pq? An older Ham indicated this was not proper. Seems minor, with all the imaginative phonetics heard and people who say zed for the z in thei
>in their calls...which is supposed to be some fancy british pronunciation?
>What does the group think?

It isn't proper, neither are the cute phonetics. You should use proper phonetics or just pronounce the letters clearly. BTW "zed" *is* the proper pronunciation for the letter 'z'. Some Americans improperly pronounce it as "zee", but that's incorrect, and easily confused with the pronunciation of the letter 'c'.

Gary

--

Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary

Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 26 Oct 1994 12:36:52 -0500
From: pvr@wg.icl.co.uk (Phil Rose)
Subject: Call Sign ID

>In article <38hqas\$6rt@detroit.freenet.org>, ad779@detroit.freenet.org (John Hughes) writes...

>>

>>Is it appropriate or not to state a call with a double letter (i.e., xy8ppq) as xy8 double pq? An older Ham indicated this was not proper. Seems minor, with all the imaginative phonetics heard and people who say zed for the z in thei

>>in their calls...which is supposed to be some fancy british pronunciation?

>>What does the group think?

"zed" is not a fancy British pronunciation - it's the standard British pronunciation. As for 'doubling' - I have occaisonally signed as :-

Gee Three Double Zed Ay

but only when working inter-G.

Phil Rose
pvr@wg.icl.co.uk
P.V.ROSE@UK03.wins.icl.co.uk
G3ZZA

The views herein expressed are mine
and mine alone - not those of ICL

Date: 27 Oct 1994 06:43:33 -0400
From: mc@shore.net (Michael Crestohl)
Subject: Century Club net questions

In article <389dj6\$rme@blitzen.cc.bellcore.com>,

karayannopoulos,george <karayan@blitzen.cc.bellcore.com> wrote:

>While searching the 80m SSB band, I discovered a net running on 3903 or so.

>They called themselves the "3905 net of the Century Club." Does anybody know

>what the Century Club is? Does this have anything to do with DXCC? What is

>the purpose of the 3905 net?

>

I remember the Century Net from the late 1970s on 75. It seems they meet to make lists to help stations "work" each other on 75, mainly for 5BWAS purposes. I checked in a few times back then (portable W1 VT) and always

was called. Worked a W7 in NV on 75 that night - havn't done it since!
Don't remember whether they issued their own "wallpaper" back then but
they probably do now.

73,

Michael KH6KD/W1
Nahant Massachusetts U.S.A.

mc@shore.net

Date: Tue, 25 Oct 94 12:11:00 -0400
From: steven.barrow@canrem.com (Steven Barrow)
Subject: Drake R8 For Sale

For Sale:

Drake R8 Communications Receiver

Only 2 months old! Just like new!

CND\$900.00 (cash. cheque or money order)
^^^^^^^^^^

Includes UPS standard shipping to anywhere in North America.

Respond via E-Mail: steven.barrow@canrem.com or call (905)876-2448 and
leave a message.

Date: 27 Oct 1994 03:48:01 -0400
From: guyk965862@aol.com (GuyK965862)
Subject: EXAM Software

What is a good computer program I can get to help me study for the TECH
licence. I am already a NOVICE!!

Date: 27 Oct 94 15:21:15 GMT
From: imotion@iu.NET (Howard Goldstein)
Subject: exploring the internet

Scott Erlich said:

>First, that would be copyright infringement. Second, I want people to

>actually read the article in the magazine or as a reprint. There are
>some nice examples and sidebars you would be missing if it were posted here.
>

>Neither I nor anyone else can stop someone from doing this, but I
>certainly won't.

>
>

>Believe me. The series is worth reading in the magazine or in reprint form.
>The responses I've already received have proven that point.

>Boston ARC Web page: <http://www.acs.oakland.edu/barc.html>

>Ham Radio and More: <http://www.acs.oakland.edu/barc/ham-more/ham-more.html>

Too bad someone can't convert the articles to html,, sidebars and all
through links, and put it on your nice www server.

N2WX

--

Howard Goldstein
InfoMotion, Inc.

--
imotion@iu.net
CIS:75006,702

Date: Wed, 26 Oct 1994 16:10:42 GMT

From: djw@cci.com (David Wright)

Subject: HOW TO LEARN CW???

In article <386mcd\$ic6@ixnews1.ix.netcom.com>,

michael silva <mjsilva@ix.netcom.com> wrote:

>In <2d.26369.2003.0N851631@exchange.com> bob.stanton@exchange.com (Bob Stanton)
writes:

>

>>

>>From: bob.stanton@exchange.com

>>Subj: How to Learn CW???

>>

>> I give up! I have been trying to learn the code since before I was
>>licensed with no luck. I have tried tapes... all I do is memorize the
>>tape... not the code. I sit in front on my computer pounding my head on
>>the keyboard (figuratively). I HATE CW!!! I don't even recognize my
>>own call in CW. I will use it ONLY to upgrade. I have no intention
>>ever to participate in a CW QSO. I realize that there is no way, for the
>>time being, to up grade without submitting to the dictates of those who
>>say "I had to do it so you must". That will change in a few years, but
>>I can't wait till then.

Well, for this I had to crawl out of the woodwork to respond. I passed the
Tech + back in December of 92. Since that time I've been (mostly) content with

VHF and UHF. That is, however until I got the opportunity to operate on Field Day at the BARK (Brockport Amateur Radio Klub) station. I got bitten by the HF bug _REAL_ bad. I started working with SuperMorse, at General speeds, and before I realized it, I was getting pretty good at copying code. On the reassurances of friends, I signed up for a 13 WPM code test. Now that I'm 0 for 2, (6 out of 10 both times) I decided that it was time to actually start _doing_ it.

To make a long story short, I just had my first CW contact on 10 meters a couple days ago to a fellow in Nashville, TN, and while it was definitely less than polished, I was quite proud of that initial contact (though I did have to apologize for sending with my left foot!). So, yes, I'm hooked. It's an amazing way to communicate. Now, if that band were only open a little more ...

So, Jeff in Nashville, if you are reading, sorry for making you put up with what must have sounded like awful code, and I even missed your call (I think it's KE4BFK), but thanks for coming back and putting up with me.

In short, try it! You may be surprised. I know I'll be looking for more contacts!

73 es cul Dave Wright, N2TYR

Dave Wright, N2TYR	146.19/79 Voice
Northern Telecom	N2TYR@cci.com
Network Application Systems (NAS)	djw@.cci.com
Rochester, NY 14609	uupsi!cci.com.djw

Date: 26 Oct 1994 20:46:22 GMT
From: little@iamu.chi.dec.com (Todd Little)
Subject: LOGIC (Logbook Program)????

In article <381lgv\$adr@nanette.pdb.sni.de>, kebsch@pdb.sni.de (Waldemar Kebsch) writes:

|>Hi,
|>
|>I have got the hint, that the proggy "LOGIC" will be the ultimative
|>logbook proggy, but no info about where I can get it?
|>
|>Any recommendations?

I'm not sure how they handle international sales, but PDA (the developer and distributor of Logic) can be reached in the USA at 404-242-0887.

I don't know if it's the ultimate, but I certainly love it.

73,
Todd
N9MWB

Date: 27 Oct 94 14:53:38 GMT
From: owl!johnk (John Krohn)
Subject: Motorola Micor

X-Sun-Data-Type: text
X-Sun-Data-Description: text
X-Sun-Data-Name: text
X-Sun-Content-Lines: 14
X-Sun-Content-Length: 747

Not being familiar with the Motorola family of radios, I need to ask for some general information concerning the Micor series. I have access to two (4) channel Micor radios that are currently set up for use on the 154 - 156Mhz public service frequencies.

Can these radios be reprogrammed and/or tuned into the 2M Amateur band with the intent of placing them in service as a repeater? If they can, how difficult would the modifications be (for an experienced radio service person)? The answers (if any) can be brief and general. At this point I just need enough info to let me know wether or not to latch onto these radios while I have the chance. Please reply to my E-mail address.

73, Thanks
John Krohn - KB0CGJ
zytec!owl!johnk@uunet.UU.NET

Date: 26 Oct 1994 16:21:24 -0400
From: mc@shore.net (Michael Crestohl)
Subject: Popular 75 meter "Piss and Moan" Net to return?

It would appear the popular 75 meter Sunday night "Piss and Moan Net" is about to return to the airwaves. Last Sunday, October 23rd at approximately 2300Z on 3.885, Net Control Station WA1HLR, Tim called the Piss and Moan Net to order and requested check-ins. There were approximately seven stations checking in, and the net ran for about an hour. The Piss and Moan Net was a popular 75 Meter AM diversion several years ago on Sunday evenings and it was really different from the nets we all know and used to participate in when we were Johnnie Novices way back when. The Piss and Moan Net was

a total parody of these and many of us found it highly entertaining. Stations checking in were asked for an informal transmission, called "your pissing and moanings please!" and were expected to complain about something they found worthy of complaint, criticism and just plain bad mouthing!

Net Manager appears to be WA1HLR, Timothy "The Timtron" Smith of Skowhegan ME. But those of us who know Tim also know that while out of the state working, he lost his home and most of his "stuff" in May of 1992 to a disastrous fire of rather suspicious origin. Since then, he's been spending a lot of time in Syracuse NY working on contract rebuilding old broadcast transmitters. He is relegated to the "just a piss weak little mobile" status or working from the "Piss Weak Hotel". However, last Sunday he was back in Maine for a few short days installing a WHQO's new FM transmitter on his hilltop. By coincidence I had to go to a collector show in Saco ME and this means I had to go to Freeport (Wife loves L.L.Bean!) Skowtown isn't much farther and we hadn't been up to see Tim this year and we arrived right as he was doing the first Piss and Moan Net in years. It is from this vantage point I write this report, sitting in his school bus temporary home on top of Henry Nyellar Mountain in Central Maine.

Callsigns of stations checking in will be omitted for decorum, but the net was lively and animated. The "pissings and moanings" informals ranged from graduated income taxes in Massachusetts to the lack of synchronization of traffic lights to a condemnation of Senator Edward Kennedy. During the course of his monologs, Tim told the assembled net that he was hoping that other stations might take the initiative and call up the Net if no one else did; due to his work schedule we would be unable to do this indefinitely. So only time will tell whether or not this will happen, but if you're around your radio on Sunday evening this winter, tune around and see if its on. You must have a sense of humor and be forewarned here and now: Not suitable for family or newbie entertainment! Its a good show!

Enjoy!

Michael Crestohl KH6KD/W1

Date: Wed, 26 Oct 94 17:18:59 GMT
From: scott@rcp.co.uk (Scott Earle)
Subject: Subject: W1AW steps on others?

In <2EAB50FC@smtp> pve@dg13.cec.BE (VEKINIS Peter) writes:
>K1MAN's 45 minute broadcast on 14275, about 6 times a day, steps on others
>most of the time, because it's an automatic broadcast.
>But then such is life....
>Peter, KC1QF.

>

Isn't this illegal? I once heard an XU that had half of Europe and North America calling him, and that broadcast started up on 14275 completely wiping his signal out. There's no way that the pileup couldn't be heard, from most places on our planet!

The thing that irritated me the most was that the broadcast included words to the effect that if other stations were heard on the frequency while the broadcast was being made, that the offending stations be reported to the FCC!!!

Aren't there laws against making automated broadcasts? I thought that the FCC rules stated that "nobody owns a frequency", and that no transmissions should be made before checking that the frequency was in use?

I would appreciate anyone else's opinions on this.

73, Scott

--

```
=====
| Scott Earle,          | Internet   : scott@rcp.co.uk       |
| Senior Software Engineer, | AMPRnet    : g0swg@g0swg.ampr.org  |
| RCP Ltd,              | NTS BBS    : G0SWG@GB7AVM         |
| Dales,                |            |
| High Street,          | Tel (work): +44 1235 510116       |
| Didcot, Oxon. OX11 8EQ | FAX (work): +44 1235 511084       |
=====
```

Date: 27 Oct 1994 07:29:12 GMT
From: myers@sunspot.West.Sun.COM (Dana Myers)

References<Cy8u0z.6HJ@news.Hawaii.Edu> <38jrgg\$60a@abyss.West.Sun.COM>,
<CyB5vA.9w8@news.Hawaii.Edu>
Subject: Re: Questions on this and that

In article <CyB5vA.9w8@news.Hawaii.Edu> jeffrey@math.hawaii.edu writes:
>

>Here's a cute anecdote provided by Chuck K5F0: During the late 50's,
>the phrase 'Shave and a haircut - two bits'' became popular on
>either the broadcast AM radio or TV (might have been a commercial).
>Hams started using the first part (.) in place of CQ on
>HF. Another station hearing the psudo-CQ would answer with the
>'two bits' part: . . and the QSO would then take off. This
>got very popular with US hams but the FCC took a dim view of it

>and started handing out lots of pink slips. The dit dit is still
>retained on HF today - you'll hear a CW op end a QSO with that.

Some CW ops do that; I admit I'm still liable to toss out a couple
of dits after concluding a CW contact. Oh, by the way, I am a
CW op, you know.

>Why would the FCC not like the / . . . exchange in
>place of CQ and the proper response? Only recognized prosigns
>are to be used on CW. Thus, I wouldn't test the FCC regarding
>sending an A or N or T in place of 1 or 6 or 0, respectively,
>with regard to a callsign exchange.

Please cite the section of Part 97 which states that only recognized
prosigns may be used. Certainly, a complete callsign must be used
for identification, but an abbreviation may be used in passing
the baton back and forth. Any other abbreviation may be used as
long as the intention is not to obscure the content of the message.
There's enough misinformation going around, even at the FCC.
Please take a moment and research the basis for your "pro signs
only" statement. I'd like to see it.

By the way, the 1950s was 40 years ago. Part 97 has changed
considerably since then. Part 97 allows one way transmissions
intended to establish a contact but does not specify which CW
character to use. See part 97.111(b)(2). There's no mention
of permissitted pro-signs for this purpose. I don't think you'd
get a pink slip for this today, especially if the use was common
and could not be construed to be a code or cipher.

--

* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Antenna waves be burnin' up my radio" -- ZZ Top *

Date: Wed, 26 Oct 1994 14:21:20 GMT
From: phb@syseng1.melpar.esys.com (Paul H. Bock)

References<19940ct21.173653.24462@ke4zv.atl.ga.us> <phb.783093624@melpar>,
<edh.783176227@hpuerca>
Subject: Re: CW Learning: Going slow. : (

edh@hpuerca.atl.hp.com (Ed Humphries) writes:

>Following up on questions of fast speed copy:

>When my wife and I met she had just completed U.S. Army
>Security Agency (now INSCOM--Intelligence and Security
>Command) morse intercept operator (and special identification
>techniques operator) training. They learned by the already
>discussed hear a character-strike a key method. She, and
>Code groups could be copied faster for two reasons:

>1-the pattern of X number of characters followed by a space
> took out a major barrier of plain text copy: the op never
> had to decide where the end of a "word" occurred; every
> four (or five, rarely other groupings) letters was _always_
> followed by a space. Made the "automatic" copy even more
> automatic, so-to-speak.

>2-the numbers in these code groups were nearly always in a
> form called "cut numbers". That is, a lot of copy consisted
> solely of number groups. Since no letters were involved
> (except perhaps in the message header information), the
> sender dropped the "long" portion of the number. This makes
> a "dit" for one, "di-dit" a two, "dah" a six, and so on.
> The ops _loved_ this kind of copy: the messages generally
> went on for a LONG time and the ops could virtually sleep
> while they copied it!

Ed, this is excellent! You just answered my questions "to
a T." Now I understand how intercept operators can copy groups
so fast; in effect, they "know something about what's coming."

Now, let's imagine a scenario where the coded groups consist
of mixed letters, numbers, and punctuation; in other words, there
are no "keys" to help in "knowing what may come next." What
does your wife feel is a maximum speed for an average operator
under these conditions?

You can see where this is leading; in the absence of some
kind of "tip-off", perhaps even using groups of varying length
as well, can an operator copy those random characters at very
high speeds? Or are high speed operators subconsciously "reading"
high speed text as words and not just translating characters?

Perhaps another good test would be to send text *in a foreign language*
at high speeds and see how well an English-speaking only operator
can copy.

In "Fifty Years of ARRL" there is a discussion of a "trick
qualifying run" sent many years ago by W1AW which consisted of
random gobbledygook (mixed words, letters, abbreviations, prosigns,

groups, punctuation, etc.) and even the *best* operators were only able to achieve about 95% copy at *20* WPM.

>So, if you hear a shakey N5RCK on the novice bands, please
>be kind. What was that Q-signal for please go slow?? :-)

Pick a freq an let's chat some evening; how about 40?

73 DE K4MSG

	* Paul H. Bock, Jr.	* Principal Systems Engineer
(_)	* E-Systems/Melpar Div.	* Telephone: (703) 560-5000 x2062
)	* 7700 Arlington Blvd.	* Internet: pbock@melpar.esys.com
	* Falls Church, VA 22046	* Mailstop: N203

"What? Us, Interfere? Of course we're going to interfere!
Do what you're best at, that's what I always say!" -- Dr. Who

Date: Wed, 26 Oct 1994 16:40:40 GMT
From: ehare@arrl.org (Ed Hare (KA1CV))

References<Cy4yx7.8r3@news.Hawaii.Edu> <RFM.940ct24155951@urth.eng.sun.com>,
<Cy9A6K.CAM@news.Hawaii.Edu>
Subject: Re: The (1929) Amateur Code

Jeffrey Herman (jeffrey@kahuna.tmc.edu) wrote:

: >>dale.piedfort@pcappbbs.com (Dale Piedfort) writes:

: >>>THE AMATEUR IS PROGRESSIVE....He keeps his station abreast of science.
: >>>It is well-built and efficient. His operating practice is above re-

: Show me a *commercially* built amateur transmitter/receiver for the
: 1929 ham, Rich! Just what do you think was available back then?

: And even if there was one (which there wasn't), it would have been
: up to the manufacturer, not the ham, to insure it was ``well-built''.

Actually, there was some commercially built gear back in 1929. In
the December 1929 QST I found the following ads:

Faske Engineering Co, custom SW transmitters
Chicago Radio Appartus, several SW receiver kits available fully constructed
General Engineering Corp, power supply (\$25.00 - BIG bucks back then!)
Radio Engineering Labs, CW transmitter (\$56.00), modulator (\$42.00)
Crosley Radio, several receivers promoted

Pilot Radio Corp, several SW receiver kits (not assembled), to \$34.50

I also spotted some neat ads in other issues. (The advantage of working at ARRL HQ!)

Admittedly, most of the ads were for components, and there was really not much commercial equipment being offered to hams. At the prices, I am not surprised. The December 1929 QST cost \$0.25. :-) Which one of us is ready to pay \$2500.00 for a 100-watt class power supply?

Besides, I read the code as requiring that a STATION be well built. I have seen many a modern station using commercially available equipment that was cobbled together with paper clips and cheese doodles, in a fashion that was clearly NOT well built (including one or two of my own, along the way). :-)

73 from ARRL HQ, Ed

--

Ed Hare, KA1CV, ARRL Laboratory, 225 Main, Newington, CT 06111
203-666-1541 ehare@arrl.org

Date: 27 Oct 1994 15:47:14 GMT
From: brian@nothing.ucsd.edu (Brian Kantor)

References<FiHNuc4w165w@lmr.mv.com> <CyAM6E.6zG@cscsun.rmc.edu>,
<CyAzAH.Er5@hamnet.wariat.org>
Subject: Re: NoCal 00 goes after Packet BULletins

no8m@hamnet.wariat.org (Steve Wolf N08M) writes:
>Your reference to "idiot 00" negated the need to reply.

You're right, it WAS redundant.
- Brian

Date: Wed, 26 Oct 1994 11:46:36 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)

References<Cy6MMI.B56@wang.com> <Cy7MvK.Gsx@utnetw.utoledo.edu>,
<Cy8J1v.3wA@wang.com>
Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: NoCal 00 goes after Packet BULletins

In article <Cy8J1v.3wA@wang.com> dbushong@wang.com (Dave Bushong) writes:
>
>I don't think that would be a good idea. I think you should be able

>to talk about whatever you feel like talking about. The same is true
>for packet, or any other mode. It's just that indiscriminately
>posting bulletins to every PBBS in the country about things that are
>not of interest to the general ham population is a waste of resources
>and annoying. Depending on the interpretation of 97.113(b), it might
>also be illegal.

I don't think it's illegal, certainly not under 97.113(b). There's
no hint of material compensation involved. Nor do I think 97.113(c)
applies since these messages are not broadcasts in the sense meant
by the Commission in that section. The messages are more similar
to a ham roundtable than anything else. It's just that due to packet
propagation through the BBS network, it's not in realtime.

As to wasting resources, 99% of what we do as amateurs could be
considered wasting resources by that standard. We're certainly
not going to be able to save up spectrum for later use, once the
moment is gone, it's gone whether we send anything or not. Nor
do sysops have to clutter their disks with every post, that's
what expires, killfiles, and budlists are for. This certainly
isn't a case where we want the government involved. The subject
of content of speech is an area where the government should
tread very carefully, if at all.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		emory!kd4nc!ke4zv!gary
534 Shannon Way		Guaranteed!		gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244				

End of Info-Hams Digest V94 #1163
